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FINAL EVALUATION REPORT

FOR THE NOVA PROJECT

EYE CARE/HAITI

by

Sally K. Stansfield, M.D.
Gerald Lerebours, M.D.
John I. McKigney, Ph.D.

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Vitamin A Field Support Project (VITAL)
International Science and Technology Institute, Inc.
1601 North Kent Street, Suite 1016
Arlington, Virginia 22209
Phone: (703)841-0652
FAX: (703)841-1597

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I. EXECUTIVE SUMMARY

Eye Care, a non-profit private voluntary organization (PVO) has implemented a Child Survival project with a research component in northwest Haiti since October, 1986. The project has been jointly funded by FVA/PVC, AID/Washington and USAID/Haiti. This evaluation was carried out (a) to conduct an end of project assessment, using FVA/PVC evaluation guidelines, focusing on the service delivery component of the project, and (b) to assist Eye Care in defining plans for comprehensive analysis of all project data.

The project objectives were:

> To develop a service delivery infrastructure to improve the nutritional status of project area children and assure that they receive vitamin A supplementation regularly;
>
> To train mothers in oral rehydration therapy (ORT), nutrition and promote oral rehydration salts (ORS); and
>
> To conduct an impact study of vitamin A supplementation on childhood morbidity and mortality.

The evaluation was based on review of project documents made available to the consultants in Port au Prince, and consultation with staff of the Child Health Institute of Haiti (CHI), Eye Care/Haiti in Port au Prince, the Eye Care field office in Port du Paix, an Eye Care/Washington staff member in Port au Prince, a rally post site in the area of Anse a Foleur district and USAID/Haiti.

II. KEY FINDINGS

Overall, the project has been successful in the achievement of its goals and objectives, and has largely satisfied the terms of the Child Survival grant. Major achievements include:

* Eye Care has made new outreach services available, substantially increasing the availability and utilization of primary health care services for young children and their mothers in northwest Haiti.

* Community acceptance of the project was demonstrated by a progressive increase in the coverage of the project population over time.

* A greatly increased proportion of children in the target area have received vitamin A supplementation due to project efforts.

* A study of the impact of vitamin A supplementation on childhood morbidity and mortality was successfully implemented.

Project activities were carried out under extremely difficult logistics and during a period of political turmoil. In spite of these constraints, the field staff was able to adhere closely to the planned timetable of activities. The evaluation identified potential avoidable problems in project implementation, including the following:

* The project was hampered by a shortage of staff for management of field operations; lack of clear plans for training, supervision, monitoring and evaluation; and unnecessary hand tabulation of data.

* Extreme delays in data coding resulted in a lost opportunity for early detection of differences in morbidity between treatment groups, and for adequate supervision and improvement of data quality.

* Additional technical assistance and a mid-project evaluation could have greatly strengthened the technical quality of interventions and contributed to more efficient operations.

Specific recommendations pertaining to the service delivery and research components of the project are presented in Sections V and VI, respectively. A proposed plan for data management for the vitamin A impact study was also developed during the consultancy and comprises Section VII of this report.

It is noteworthy that the project was designed and has been carried out entirely by Haitians. It would have been a major undertaking in any country and was certainly an ambitious endeavor in this country where it was known beforehand that there would be serious constraints to achieving fruition. Great credit is due to all, and especially to the field staff, who contributed to its successful implementation.

III. PROJECT DESCRIPTION

A. GENERAL

The NOVA (Nutrition, ORT and Vitamin A) project has been implemented in the Anse a Foleur and Saint Louis du Nord districts in northwest Haiti.

The project has had two major goals:

(1) To create a sustainable basic health services delivery infrastructure for mothers and children under eight years of age in a population of 75,608 persons--funded by FVA/PVC, AID/Washington under a Child Survival (CS) program grant; and

(2) To conduct a randomized, double-blind, controlled study of the impact of vitamin A supplementation on diarrheal and respiratory disease morbidity and mortality among 13,776 children 6-83 months of age--funded by USAID/Haiti as a sub-grant under the "Mobilizing Mothers for Child Survival" (MOMS) project.

B. PROJECT OBJECTIVES

The project proposal called for the following to be achieved by the end of the three year project period:

> 80% of the mothers of children under five living in project areas will have demonstrated competence in the utilization of ORT and that 60% of these mothers will have correctly utilized ORT for the most recent diarrheal episode.
>
> 80% of the three birth cohorts for the three project years will have been effectively protected against avitaminosis A.
>
> The nutritional status of children under two in the community will have improved as demonstrated by a 50% reduction in the incidence of severe malnutrition at age two years.

With regards to the vitamin A research study, the hypotheses were:

> Children who were administered 200,000 IU (100,000 IU for infants 6-11 months) of vitamin A every four months and monitored over 14-18 months (4-5 total doses) would have significantly lower incidence and prevalence rates of diarrheal diseases and acute respiratory infections.
>
> Children receiving supplemental vitamin A would have a significantly lower mortality ratio than those receiving the placebo.

The project objectives were modified somewhat during the course of developing the detailed implementation plan and carrying out field activities. For the service component of the project, they were stated in the 1986-1987 annual report as being:

> To ensure that registered children 6-83 months of age living in the project area receive one dose of vitamin A every four months.
>
> To train 8000 mothers of children under five in appropriate nutrition practices, and in ORT.
>
> To improve through growth monitoring the nutritional status of 6000 registered children under three living in project areas.

In May 1988, an amendment to the project was requested to provide funding for an increased number of staff which had been found to be necessary, for the purchase of a computer, and to extend the project period by three months. This document stated that at the end of the project:

> 15,000 children 6-83 months of age will have participated in 4-6 rounds of vitamin A capsule administration.
>
> 10,000 mothers will have been trained in ORT and appropriate nutritional practices.
>
> An infrastructure for the provision of child survival services to 60 villages in the northwest of Haiti will be in place and will reach a total target population of 75,000 people.

C. PROJECT DESIGN AND IMPLEMENTATION PLAN

Following the selection and training of a community-nominated health promoter (CHW) for each of 60 sectors in the project area, the entire population was registered. The combined service/research program was then implemented on the basis of four complementary elements:

1. A quarterly rally post day was held in each sector to provide basic health care services to mothers and children; growth monitoring, eye care and vitamin A to children.

2. A system of home visits within two months following the rally post to deliver health services and vitamin A to children who did not attend rally posts.

3. Group training and testing of mothers in ORT and nutrition.

These elements comprised the service delivery system, which was provided by the CHWs.

4. A surveillance system, based on an ongoing ocular and health/mortality survey, to identify children who died and to monitor the incidence rates of diarrheal disease and acute respiratory infections. The enumerators were to complete the survey round in each sector between three and six weeks after the rally post day for that sector.

This fourth element comprised the research portion, which was carried out by a team of 20 full-time enumerators.

Informed consent was obtained from the caretakers of all participant children in the vitamin A research component of the project. Each child was randomly assigned to

receive a red or green capsule each four months. One color capsule contained 200,000 IU of vitamin A and 40 IU of vitamin E; the other color contained 40 IU of vitamin E. The code is not known by any person associated with the project. Allocation to the red or green treatment group was determined on the basis of the child's registration number in the project. Throughout the project, any children noted to have signs suggestive of vitamin A deficiency, recent or current measles were to be removed from the study and treated with vitamin A according to the IVACG/WHO guidelines.

Due to the difficult logistics in the area and limitations in personnel, each activity was initiated in the Saint Louis du Nord area first, then phased into the Anse a Foleur area.

D. HEALTH INFORMATION SYSTEM

Since NOVA was a combined service delivery and vitamin A research project, the monitoring and evaluation system was comprised of three elements which are roughly equivalent to tier l, tier 2 and tier 3 AID designations.

Tier 1 level data

The Ministry of Health (MOH) system, consisting of forms which are essentially tallies of receivers of health services, has been used by NOVA. These tally sheets, filled out at the rally posts, provide the following information:

1. Registered population (including breakdown of sub-categories)
2. Training activities during the reporting period
3. Number of rally posts held
4. Service utilization data for pregnant women, growth monitoring, immunization, diarrhea and family planning
5. Number of household visits for distribution of vitamin A to "no-shows" at rally posts

Tier 2 level data

This information was obtained from three basic forms:

1. The family register form which, gives a listing of all persons living in the project area
2. Special rosters of the specific target groups (children 0-83 months of age,

pregnant women)

3. Individual records of target children and women

Coverage indicators included:

1. Proportion of all registered mothers who are competent in the use of ORT

2. Proportion of all registered mothers who used ORT the last time their child had diarrhea

3. Distribution of nutritional status of children under three years of age

4. Proportion of children who have received a vitamin A capsule during the past four months

Tier 3 level data

This information was also based on three sources:

1. The survey (special list developed for pregnant women) conducted every four months by the CHWs

2. Child health survey repeated every four months by enumerators through the surveillance system

3. Investigation by the enumerators of all deaths among infants and children under seven, using a verbal autopsy instrument

The indicators were:

1. Baseline and end of project prevalence of avitaminosis A among children under seven years

2. Infant mortality rate measured prospectively for three birth cohorts: 1987, 1988 and 1989

3. Proportionate mortality rate for diarrhea as well as diarrhea-specific death rates

4. Impact of vitamin A administration on the prevalence of avitaminosis A

5. Impact of vitamin A administration on diarrhea

6. Impact of vitamin A administration on respiratory diseases

7. Impact of vitamin A administration on mortality

The protocol for management of health information in the field is attached (Appendix I). Coded forms were to be sent from the field to Port au Prince for data entry and analysis at CHI. Specific commitments regarding analysis and use of data, apart from the general commitment implied in the project proposal, were:

> Results of the baseline survey were to be summarized in a timely manner for the benefit of the CHWs. Information on attendance at rally posts, vitamin A coverage and evaluation of maternal knowledge was to be used as a CHW supervision tool (1986-1987 NOVA Project annual report, page 13).
>
> Data was to be analyzed promptly to detect possible significant differences in the two vitamin treatment groups during the study. If a significant difference was detected in mortality ratios, the code would be broken and the vitamin associated with the protective effect was to be administered to all children (Project Implementation Plan).
>
> Periodic analysis, including basic lists, frequencies and cross-tabulations were to be performed as a quality control, to assure experimental and control group comparability, and for surveillance of adverse effects (Project Implementation Plan).
>
> The results of the study were to be reported promptly to AID and IVACG. Results which warrant reporting in the literature were to be promptly prepared for publication (Project Implementation Plan).

IV. FVA/PVC EVALUATION ISSUES

A. PROJECT FOCUS AND USE OF FUNDING

As indicated in the project description (Section III. A.), this was a combined service delivery and research project. The service delivery component was funded by FVA/PVC, AID/Washington as a CS project, while the vitamin A impact research study was funded by USAID/Haiti. The project was designed and implemented in a manner which assured that CS funds were essentially used for service delivery purposes.

Through the creation of a new village-based health service delivery cadre (60 CHWs) in the project area, the major focus of CS funding was:

> To provide additional outreach services (ORT, vitamin A, nutrition education) from the two established health posts in the project area.

activities which included training, monitoring and supervision of health staff and target members of the total population in the project area.

Through expansion and strengthening of the eye care, ORT, growth monitoring and nutrition counseling services provided at rally posts and follow-up household visits to rally post no-shows, to increase both awareness of health needs and demand for health services in the communities.

To change health behavior and nutrition practices in pregnant women and mothers, through the increased scope and frequency of services and training provided to mothers.

Thus, CS funding was used primarily to develop new activities and establish a new sustainable cadre of health workers in an area of Haiti where Eye Care had not been operating previously.

B. ORGANIZATIONAL DEVELOPMENT

Haitian personnel exclusively were in charge of the design and implementation of the administrative, training, health service and monitoring/evaluation aspects of the CS and research components of the project.

Since competent and experienced staff were available, the project proposal did not contemplate the need to provide external technical or management expertise for staff development. Neither management nor technical support were provided to the project by Eye Care headquarters. However, Eye Care had, during the design stage, made arrangements for project support and supervision from CHI, particularly in the areas of data collection, management, processing and interpretation. It was also planned that Johns Hopkins University would designate a full-time resident advisor to be attached to the project. However, this never took place.

USAID/Haiti provided short-term consultant services by a medical epidemiologist to the project in December, 1986, October, 1987, and August, 1988. During each of those visits, the consultant identified as technical assistance needs:

1. Long Term
   One person with sufficient experience in field surveys and project management to coordinate and arrange implementation of specialist consultants' recommendations regarding project implementation: 25% for duration of project.

2. Short Term
   Demographer with expertise in data entry and analysis: 25 days over three years.

Nutritionist with expertise in methods of assessing vitamin A status: 5 days

Field survey consultant with special expertise in morbidity and mortality surveys: 26 days

Nutrition Educator: 10 days

Logistics consultant: 10 days

It appears that none of the above consultants were employed by the project. The report from the October, 1987 visit listed the following additional technical assistance needs:

1. Long Term
   Support in training and health education for developing a "core curriculum" for each of the project interventions and to assist in the training and supervision of the CHWs.

2. Short Term
   Referral Ophthalmologist

   Nutritionist/vitamin A consultant

Consultant services were obtained from a Haitian ophthalmologist.

Subsequent to an October, 1987 visit to the project area, the USAID/Haiti project advisor recommended that a full-time Trainer/Health Educator be hired to provide further training to the CHWs and to assist in supervising the rally posts. This person was added to the field staff in July, 1988.

C. PROJECT DESIGN AND IMPLEMENTATION

The NOVA project CS interventions directly addressed three major causes of infant and child mortality in the area: malnutrition, diarrhea, and acute respiratory infections. Vitamin A was proposed as an intervention on the basis of past surveys indicating a high prevalence of avitaminosis A in northern Haiti and recent studies in other countries suggesting that vitamin A supplementation may reduce childhood mortality and, possibly, diarrheal and respiratory disease morbidity in areas where such deficiency is prevalent.

Although immunization was within the purview of the MOH, NOVA staff assisted MOH staff in conducting five mass vaccination campaign days during the project and encouraged improved participation. The project activities were correctly focused (in descending order of priority) on children below three years of age (all services), pregnant women and mothers of young children (counseling in ORT, nutrition, and health education) and children three through seven years of age (vitamin A and general medical

services). Services were targeted to these groups through rally posts, follow-up household visits to "no-shows," household monitoring visits and group training sessions in the villages for mothers.

The objectives of each intervention which Eye Care proposed for the project were sufficiently specific and measurable, were given a time frame, and appeared to be both realistic and feasible on the basis of prior experience of this PVO in Haiti. The implementation plan called for phased introduction of activities into the two regions--first in Saint Louis du Nord, and then in Anse a Foleur--due to difficult logistics and to maximize the use of project management and supervisory personnel.

There has been, as yet, insufficient data analysis and description of project results to adequately judge the quality of field activities. The training program for CHWs was carried out as planned. There were only two supervisors to oversee the field activities of 80 persons (60 CHWs, 20 enumerators). This was far too low a ratio to assure smooth functioning of field operations and production of quality data. A full-time nutrition/health educator was added at mid-project to provide in-service refresher training. There was reportedly very low CHW staff turnover--only six of 60--during the project. Unfortunately, serious delay has been experienced in data analysis, consequently there could not have been adequate feedback of results to project staff.

D. EFFECTIVENESS/IMPACT OF SERVICES

Little data from the baseline survey and subsequent project activities had been entered into the computer as of the time of this consultancy. Thus, it is impossible as yet to document in a quantitative manner the project impact and effectiveness. However, some data is available. The 1987-1988 annual report presented a summarization of the baseline situation, based on analysis of 1000 records selected at random from the total project population (Appendix II). Appendix III, the January, 1990 Interim Report on project activities, summarizes the health services provided during the tenure of the project (Section B.).

While direct comparisons are not possible, the data show a major increase in vitamin A coverage. The mechanisms for vitamin A distribution (rally posts and household visits to "no-shows") provided the opportunity for at least limited eye care, general health services, growth monitoring, ORT and nutrition counseling. Thus, it seems reasonable to conclude that the project did, in fact, result in a major increase in health service provision to the targeted groups in the project area population.

All of the projected 300 rally posts (five rounds in each of the 60 sectors) were held

during the project[1]. Nearly 13,000 individual home visits were made by the CHWs. In addition, project staff assisted MOH personnel in conducting five mass vaccination campaign days. Appendix IV, listing the planned versus actual accomplishment of field activities, indicates remarkable adherence to the general field work plan, considering the constraints under which the project staff worked.

E. PVO/HOST GOVERNMENT COOPERATION

The NOVA project was planned and carried out under the jurisdiction of the Northwest district of the MOH, based in Port du Paix. Eye Care held several meetings with MOH staff during the design stage to discuss policy norms and coordinate training, service delivery and health information system activities. The Project Field Director, Dr. Muller Pierre-Louis, was appointed as District Health Director by the MOH. The MOH also provided weighing scales, ORT training materials, growth monitoring cards and space at health centers for training sessions. NOVA and MOH staff collaborated closely in providing services at the rally posts in the 60 project sites and in providing ORT training to health personnel, to the CHWs and at the community level.

Children observed at the rally posts to have measles (current or recent past) or eye signs suggestive of vitamin A deficiency were referred to the district health center for treatment. Children with other acute, severe illnesses were also referred to the health center or hospital. Severely malnourished children were referred to a nutrition center. Eye Care and the MOH agreed that for the long term, CHWs would be remunerated for their participation in rally post activities. Also, it was agreed that an additional source of income would be provided to the CHWs through the creation of village micro-pharmacies to be run by the CHWs for profit. Basic drugs and ORS packets were to be sold, and contraceptives and vitamin A capsules distributed at the micro-pharmacies. This approach did not endure, however, because the community pharmacies sponsored directly by the MOH, which sold ORS packets at the same price as the CHWs, provided an adequate supply to the population.

F. SUSTAINABILITY

The Eye Care proposal contemplated that recurrent costs to continue the same level of health services delivery post-project would be $8,000 per year. It was estimated that there would be 3,000 pregnancies per year, of which 1,000 would be new mothers requiring instruction in ORS use. The cost of identifying and training them and maintaining a supply and distribution network of ORT and vitamin A was estimated to be $7,000 per year. Overhead and supervision costs were estimated at $1,000 per year. The $8,000 would be funded from the Eye Care/Haiti budget.

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[1] This is at variance with the number (243) indicated in Appendix III. Rally posts for two adjacent sectors were held on the same day at some sites.

The July, 1987 progress report projected recurrent costs to be $15,000 per year (to be funded by Eye Care/Haiti) based on:

Salaries of 2 CHW supervisors @ $100/month	$2,400
Transport/care of mules & horses @ $50/month	600
Continuing education of 60 CHWs @ $5/day x 5	1,500
Supplies and drugs	6,300
Administration	4,200
ANNUAL TOTAL	$15,000

The 1986-1987 and 1987-1988 annual reports estimated that the recurrent post-project costs would be $50,000 per year, based on:

Salaries	$19,000
Benefits	3,800
Transport	10,000
Drugs	8,000
Rally post operations	6,000
Office expenses	3,000
ANNUAL TOTAL	$50,000

Utilizing the strategy and experience gained in other regions of Haiti, Eye Care proposed that the service delivery system could become self-sustaining through the creation of mothers' groups which would assume increasing responsibility for these activities. However, it is doubtful that the $15,000 per year which Eye Care is committed to provide can sustain service delivery approaching the level achieved during the project.

Eye Care did not anticipate that the MOH would absorb any of the recurrent costs associated with the project except for the provision of the supplies and commodities which it was already providing. Since the project generates no funds at the present time, long term sustainability will require substantial funding from as yet unidentified sources for a period of several years.

G. PROJECT FINANCES

The level of funding which AID originally agreed to provide for the NOVA project was:

AID/Washington, for the service delivery component:
$166,000 over the three year life of the project; and

USAID/Haiti, for the vitamin A research component:
$200,000 for the life of the project.

The 1987-1988 annual report proposed a $115,000 enhancement for the remainder of the project and extension of the project assistance completion date (PACD) from September 30, 1989 to December 31, 1989. Approval was received from AID in December, 1988. The additional funds were to be used for the following purposes:

Salaries	$38,700
Benefits	6,100
Mothers training	29,000
Computer, printer, software	500
Consultants	19,700
U.S. office expense	12,000
Haiti office expense	2,000
International travel	2,000
TOTAL	$115,000

Eye Care contributed $92,000 over the life of the project and Hoffman-LaRoche Basel contributed the color-coded capsules at an actual manufacturing cost of $3,000. Thus, the total funding level from all sources was $576,000. All funds were expended by the PACD.

V. DISCUSSION AND RECOMMENDATIONS - SERVICE DELIVERY COMPONENT

In order to summarize the lessons learned in the course of the project, the following discussions address the service and research components separately. The observations about what worked well (achievements/strengths) and what didn't (problems/constraints) for the two parallel components of the project must be made in recognition of the separate objectives for the intervention and research activities.

A. ACHIEVEMENTS/STRENGTHS

The major accomplishments of the service delivery component of the NOVA project include the following:

The project created a new mechanism for outreach health service delivery, substantially increasing the availability and utilization of health care services in the Anse a Foleur and St. Louis du Nord regions of Haiti.

NOVA has developed and leaves in place a cadre of nearly 90 persons in the project area who are experienced in the delivery of primary health care and in field survey methods.

The project's acceptability in the community is evident in the progressive increase in coverage with rally post services over time.

The low turnover in health workers during the project period provides evidence of the project's success in managing personnel and motivating them to continue their efforts, contributing to the sustainability of project interventions.

The project staff created a positive working relationship with the MOH in the region, maintaining regular communications and collaborating in decisions about project design and implementation.

B. PROBLEMS/CONSTRAINTS

The project was an ambitious undertaking, encountering inevitable obstacles due to the difficult circumstances of the project area. The major problems and constraints observed by project staff and the evaluation team included:

Inadequate staff for management of field operations was an obstacle to the smooth functioning of the project.

The failure to obtain recommended technical assistance undermined the technical quality of health and nutrition education interventions, which were to be a key element of the strategy to improve health behavior.

The provision of curative care at the rally posts was hampered by the lack of essential pharmaceuticals, such as antibiotics and vitamin A (to treat any cases of deficiency detected during ocular screening) and by the absence of clear guidelines for prescribing and dispensing medications.

The service delivery activities were hampered by lack of a clear plan for monitoring and evaluation, the failure to include a mid-term evaluation in the

project plan, and the failure to complete the planned ORT competence testing to assess the project's success in meeting its ORT objective.

The project's sustainability was compromised by the absence of any technical consultation to assist in development of a plan for training, including refresher courses, periodic training to provide replacements in the event of attrition, and assessment of the quality and effectiveness of training.

C. RECOMMENDATIONS

The following recommendations can be made to strengthen the service component of the NOVA project:

Improve the project strategy for management, including transfer to the field of decision-making authority and financial management.

In view of the experience to date, reassess the sector boundaries to optimize access to rally posts by the target population.

Develop an operational research strategy for identifying operational problems and testing alternative solutions.

Capitalize on the existence of community level health promoters by expanding their role to include health and nutrition education during domiciliary visits.

Develop clear objectives and appropriate materials to strengthen health and nutrition education.

Seek means of strengthening the frequency and quality of supervision, such as by increasing the number of supervisors and developing supervisory guidelines.

Develop diagnostic algorithms and guidelines for prescribing medications, to expand therapeutic capabilities to include pharmaceuticals for treatment of conjunctivitis, skin infections and pneumonia.

Arrange to have a disinfectant solution at each rally post for rinsing the bottles used by mothers to take medications home.

Enhance project sustainability by developing training objectives and curricula, plans for refresher training courses (including training of replacement staff) and assessment of the effectiveness of training through competency testing.

VI. DISCUSSION AND RECOMMENDATIONS - RESEARCH COMPONENT

A. ACHIEVEMENTS/STRENGTHS

The major accomplishments of the research component of the NOVA project include the following:

Eye Care is to be commended for conceiving, and under very adverse conditions, successfully implementing a complex research study with important practical and policy implications--the first of its kind in the Western hemisphere.

As a result of this study, a greatly increased number of children in the project area have received vitamin A supplementation. In addition, a mechanism is now in place for long term vitamin A supplementation for at-risk children and their mothers, and for gradual progress toward resolution of avitaminosis A through adequate production and consumption of vitamin A-rich food sources.

Except for the delay in initiating the second rally post cycle due to the unavailability of the color-coded capsules, the research component of the project probably strengthened the service delivery component. The home visits by CHWs to administer capsules to "no-shows" and the surveillance visits by enumerators stressed the importance of health care to the project area population.

There was a definite trend of increased vitamin A coverage over the course of the study. This probably reflects both growing receptivity of the target families and gradual improvement in the delivery system, factors which auger well for the future.

B. PROBLEMS/CONSTRAINTS

The major problems and constraints of the research component include the following:

Field project staff did not have the regular yellow vitamin A capsules throughout the project. The research protocol and ethical considerations called for immediate administration (at the rally post) of a yellow capsule to children found to have xerophthalmia, or current or recent measles, then referral to a health facility for completion of the treatment course recommended by IVACG/WHO for xerophthalmic children. Not having the yellow capsules available was a serious oversight.

Due to delayed receipt of the color-coded capsules, vitamin A was not administered during the entire first rally post cycle and initiation of the second cycle was postponed. This delayed and diminished the possibility of detecting measurable differences in morbidity and mortality between the two treatment

groups. Good project management should have dictated that an assured, adequate supply of the color-coded capsules be available well in advance of each rally post cycle.

The study protocol called for prompt analysis of data to permit early detection of possible differences in morbidity or mortality between the two treatment groups. The project proposal did not define how the data analysis was to be done but a commitment to do so promptly was made by Eye Care. Additional funds to purchase a computer for this purpose were requested in May, 1988 and authorized by AID in December, 1988. However, the computer was not received until November, 1989. As a result, any analysis during the study was done by hand tabulation, representing imposition of an extra time-consuming task on already over-committed field staff.

As near as could be determined, the nutrition education messages did not mention the importance of including dark green leaves in food mixtures prepared for young children.

C. RECOMMENDATIONS

The following recommendations can be made to strengthen the research component of the NOVA project:

That the project immediately obtain a supply of (yellow) vitamin A capsules from the MOH for use as outlined in the NOVA project Health Information System (Appendix I).

That a research study with important ethical considerations and policy implications such as this should have periodic progress review visits by a multidisciplinary consultant team. A team report can be more comprehensive and relay a stronger message to both the project leaders and funding agency than does a report by a single consultant.

That if analysis of the study data indicates a seasonal trend in vitamin A-associated morbidity or mortality, distribution cycles in the future be adjusted to assure that children receive supplementation shortly before high risk periods.

That a 200,000 IU vitamin A capsule be administered to mothers in the project area within two months of delivery.

That adjustment in the ages of target children to receive vitamin A supplementation be considered on the basis of study results and future experience.

That inclusion of dark green leaves and other green or yellow vegetables in food

mixtures for young children be strongly promoted. This promotion should be accompanied by food use and preparation demonstrations and operational research to identify and overcome existing constraints to feeding these vitamin A-rich food sources to young children.

VII. PROPOSED PLAN FOR DATA MANAGEMENT - RESEARCH COMPONENT

At the time of this final evaluation of the NOVA project, virtually none of the analysis of the data for the vitamin A research component had been completed. Although summary data are available regarding doses administered and infant and child deaths, these figures were prepared from service records rather than the Anket Sou Sante Timoun (ASST) forms which were designed to provide the data for the vitamin A study. Although the preliminary data may be accurate, validity checks comparing the ASST data to the service records may present a more accurate picture.

The sample size obtained is potentially adequate to show a difference in mortality rates between the placebo and control groups. The sample size needs were calculated (as outlined in the Project Implementation Plan) to be able to demonstrate a 25% reduction in a baseline child mortality of 25 per 1000 assuming an alpha error of 0.05 and a beta error of 0.2. The preliminary calculations suggest that these conditions have been met:

Parameter	Projected Need	Observed (Preliminary)
Sample size	13,686	13,776
Child mortality	25/1000	26/1000
Deaths	342	349

The major obstacle to demonstration of a difference in mortality is the limited coverage achieved with the capsule distribution. Only 81% (11,213) of the children had received at least one dose, and 39% have received at least 3 doses according to the service statistics available. Therefore the effective sample size may be considerably less than needed to demonstrate a mortality change at the expected level. Although the analysis of the ASST forms and the completion of the fifth cycle may improve these figures somewhat, it is unlikely that the coverage achieved will be adequate to document a mortality difference between the two groups.

There is, however, an excess of deaths among those children who received neither red nor green capsules (i.e., 297 or 85% of the deaths occurred among the 19% of children who received no capsules). These, and the children reported "missing", will require further investigation, perhaps best conducted during a final cycle of domiciliary visits and through analysis of the ASST forms for these children. Another round of domiciliary visits would also provide the additional benefit of improving the potential continuity of care by sustaining rally posts until funding for the follow-on project can be secured.

There remains a good possibility that the analysis of the data on the ASST forms will document a significant difference in morbidity (respiratory and diarrheal disease) between the two groups. While the fifth rally post cycle (fourth vitamin A distribution) is being completed, a team of data clerks may be trained and set to work to catch up with the data coding and entry.

A cheaper alternative to the plan presented below is to code, enter and clean the data while suspending the rally post distributions. "Missing" children and deaths for which data are incomplete could then be investigated in two to three months time, by small teams of enumerators or the supervisors and ophthalmic assistants.

A. CODING

Coding is the most time-consuming of the processes to be undertaken. Because the coding was not completed immediately after the ASST forms were submitted, the opportunity for supervision and improvement of data quality has, unfortunately, been lost. There is also an accumulation of an estimated 50,702 ASST forms (based simply on the height of the stacks) yet to be coded.

If the "baseline" survey cycle and that following the first rally post (when there was no distribution of capsules) are eliminated from the analysis, the estimated number of ASSTs to be coded becomes 30,000. Completion of a final round after the fifth rally post cycle (fourth cycle with capsule distribution) would bring the number of ASSTs back up to approximately 40,000.

Assuming that coding will require five minutes per form (see protocol for coding attached as Appendix VII), and that coders work six full hours per person per day and five days per week, it will require 555 person days to code the 40,000 forms. So ten coders will require nearly four months of full time work.

B. DATA ENTRY

Data entry can proceed very quickly once coding is completed. Assuming that entry takes one minute per form (though it may be considerably less), two data entry clerks can complete the 40,000 ASSTs in the same four months as required for the coding. Although the project has one computer (only recently acquired), another will need to be rented or purchased to complete the task in a reasonable period of time.

The variables to be entered from each form include the household address (sector and house number), child number, and date of domiciliary visit, in addition to the variables listed in the coding guidelines provided as Appendix VII.

C. ANALYSIS

The following steps will be undertaken for the data analysis:

1. Creation of New Variables

New variables will be created for:

Age of the child at the time of the domiciliary visit
Cycle after which domiciliary visit was made
Interval since receiving the most recent capsule
Vitamin A status, summarizing NOVA, MOH and mother's report regarding history of receipt of vitamin A
Nutritional Status based on weight for age, with the assistance of software for this purpose available at CHI.

2. Frequencies

Frequency distributions will be created for all non-date variables, to aid in quality checks by flagging outlying or nonsense values, and to assure a normal age and sex distribution for the population.

3. Cross-tabulations

The following cross-tabulations will be completed, to observe differences in morbidity and mortality between the treatment and control groups, and to ensure comparability of the groups for all other variables:

Age * sex, death, capsule color, breastfeeding, morbidity variables

Death * sex, cycle, sector, capsule color, breastfeeding, vitamin A, nutritional status

Capsule color * sex, sector, nutritional status

Vitamin A * sex, death, breastfeeding, morbidity variables, nutritional status

Breastfeeding * morbidity variables, nutritional status

Diarrhea * treatment, sector

4. Interpretive Analysis

Further statistical analysis will be completed as indicated, including appropriate tests for

statistical significance of differences noted in the cross-tabulations outlined above.

D. DISSEMINATION

Reports will be prepared for dissemination of the results both in-country and internationally. In addition to presentation of the results at meetings or seminars, such as the Child Survival Coordinating Committee, a report (in French) of the results will be prepared for distribution to interested agencies and persons. The results will also be prepared for publication in an appropriate public health, epidemiology or infectious disease periodical.

E. BUDGET

The following expenditures are projected to complete the data entry, analysis and dissemination:

Personnel (for 4 months):

Operations Coordinator	$4,000
Ophthalmic Assistants (2)	6,000
Supervisors (3)	2,200
Enumerators (20)	10,000
CHWs (60)	12,000
Data Coders, Entry Clerks (12)	19,200
Rally post supplies	3,000
Fuel/maintenance	1,500
Office improvements	750
Computer lease	2,500
Supplies (paper, diskettes, etc.)	200
Technical assistance (2 trips, 20 days)	7,380
Publication costs	3,000
International conference presentation	2,300
TOTAL	$74,030

Suspending the final rally post cycle would result in a cheaper alternative to the budget option outlined above. Field personnel costs, rally post supplies and transportation costs (fuel and maintenance) would be eliminated, resulting in an expected cost of approximately $39,330.

F. ACTION

The following tasks must be completed in management of the NOVA project research data, with target dates and persons responsible identified for each:

DATE	TASK	PERSON(S)RESPONSIBLE
9 Feb	TA request to VITAP for assistance in data management, reporting	Dave Eckerson (done)
12 Feb-19 Feb	Translation of coding manual, identification of 10 coders and 2 data entry clerks	Gerald Lerebours
12 Feb-26 Feb	Preparation for resumption of field activities, notification of monitrices coordinator OAs and enumerators, assurance of supervision	Tony Augustin to identify and brief the field coordinator
12 Feb-2 Mar	Preparation of workspace for coders and enterers, that tasks are complete purchase or loan of chairs, tables, and lease of computer, photocopy of 14 copies of ASST form & coding manual	Tony Augustin to assure
5 Mar-9 Mar	Training for coders on 5 March, coding begins with intensive supervision 6&8 March, training for data entry clerks 7 March, pilot analysis 9 March	Gerald Lerebours, Sally Stansfield
26 Feb-16 Mar	Domiciliary visits by monitrices & distribution of vitamin A with strong supervision to assure complete coverage	monitrices, supervisors, OAs, and field coordinator (to be identified)

2 Apr- 8 Jun	Domiciliary visits by enumerators to complete ASST, with strong supervision to assure complete coverage	enumerators, supervisors, OAs, and field coordinator
11 Jun- 23 Jun	Death investigations, data "cleaning" and quality control, preliminary analysis	Gerald Lerebours, Sally Stansfield, enumerators supervisors, OAs and field coordinator
9 Jul- 20 Jul	Final analysis and report preparation	Muller Pierre-Louis, Gerald Lerebours, Sally Stansfield

THE NOVA PROJECT

HEALTH INFORMATION SYSTEM

This document describes the protocol for management of health information in field activities for the NOVA PROJECT. Sites for which record management is described include:

1. Rally posts;

2. Home visits, by:
   a. health promoters, and
   b. enumerators; and

3. NOVA Field Office.

Records managed by project staff in the field include:

1. Family Identification Card (kept by the family)

2. Chemin la Sante Card (kept by the family for all children 0-59 months)

3. Fiche Individuelle (kept in the NOVA field office and carried to the rally posts for the appropriate sectors)

4. Anket sou Sante ti Moun (completed every 4 months, 3-6 weeks after Vitamin Distribution in the sector, carried to the rally post for the appropriate sector for early rally posts as an aid in completion of Family Identification cards and fiches individuelles).

5. Home visit list (list of all children 0-83 months for each sector, completed in the NOVA field office with attendance at rally post recorded by the record-keeper during the rally posts, subsequently used as a guide an record for home visits to "no show" families and as a master list to record completion of the Anket Sou Sante Timoun, returned to the Project Director after completion of each cycle).

6. Fiche de suivi (compiled and kept for each sector in the NOVA Field Office).

7. Pregnancy List (kept by the Health Promoter and used to update the Home Visit List).

RALLY POSTS

Record Station

Each mother/child pair is first encountered by the record-keeper, who pulls the child's Fiche Individuelle, giving it to the mother for purposes of record-keeping while at the rally post. The accuracy of the family address (sector and house number) is confirmed by comparison of the numbers on the Family Identification card and Chemin la Sante Card, which are brought by the family to the rally posts.

-- If the family has no Family Identification Card, it is provided to the family at that time, as long as the address can be confirmed by children by consulting and Chemin la Sante Card for one of the children or by identifying the address from the Anket Sou Sante Timoun completed for one of the family's children.

-- If a child has no Chemin la Sante Card, it is provided at that time. For first visit children, the Chemin la Sane Card will generally have been completed from the available information from the Fiche Individuelle (including allocation to Vitamin A study group, indicated by a red or green spot in the "Autre" section of the card). If not (and for Newborns), a new Chemin la Sante card will be started and given to the mother, as long as the household address can be ascertained by consulting the Family Identification card, a Chemin la Sante card for an older sibling, or an Anket Sou Sante Timoun for a child from that household.

-- If the address can not be ascertained the child is referred directly to the physician (or attending senior health official), where the child's name (and general location information) are entered on the Home Visit List. The child is subsequently treated as a "no show", his household visited within 2 weeks, and the vitamin dose administered in the child's home where the address can be ascertained.

-- If it is discovered that the family has come to the rally post for another sector, that family is referred to the physician (or attending senior health official) for counseling and encouraged to the appropriate rally post.

-- If there is no Fiche Individuelle on file, this record is also created at that time, as long as the address
can be ascertained by the methods outlined above.

Ophthalmic Screening Station

The mother/child pair now proceeds with the necessary records to the Ophthalmic Assistant (O.A.) for screening examination and vitamin administration. The O.A. screens all children 0-83 months of age, noting any significant eye findings on his own list as well as on the Fiche Individuelle. In the absence of special circumstances noted below, the O.A. administers the appropriate vitamin (ascertaining that even house number receive green capsules and odd receive red capsules) in the appropriate dose to each child. The dose given is recorded on both the Chemin la Sante Card (in the "Autre" section: "Vit" and date) and the Fiche Individuelle. The mother/child pair is then asked to proceed to the growth monitoring station.

-- If there is not green or red dot indicating the vitamin the child is to receive, the O.A. marks the appropriate color dot on the Chemin la Sante Card at that time, and proceeds with vitamin administration.

-- If the O.A. identifies eye disease suggestive of vitamin A deficiency, the child is given a first dose of 200,000 IU of vitamin A and referred immediately to the ophthalmologist for further diagnosis and treatment. These children are eliminated from the study and their treatment documented on the Fiche Individuelle and Chemin la Sante Card.

-- If the child is diagnosed as having clinical measles, one dose of 2000,000 IU (or as appropriate) of vitamin A is administered, appropriately recorded and that child's participation in the study delayed until the next rally post.

-- If a child is identified as having severe chronic disease or congenital defects, he is eliminated from study participation (as is appropriately documented on the Fiche Individuelle and Chemin la Sante Card) and referred as needed.

-- If a dose of vitamin A is recorded on the child's Chemin la Sante Card within the past four months, study participation is delayed until the next rally post (or the family may refuse to participate if vitamin therapy will continue).

Growth monitoring station

At the growth monitoring station all children 0-83 months are weighed by the health promoter. The health promoter reports the weight to the record keeper who records it on the Fiche Individuelle, and plots and records it on the Chemin la Sante Card if the child is under 5. The record-keeper then locates the child's name on the Home Visit List, indicating that the child has attended the rally post, received a vitamin dose, and whether the child has been identified as malnourished. At the end of the rally post the

record keeper completes the Home Visit List by pulling the Fiches Individuelles for all "no-shows" and indicates this appropriately on the Home Visit List. The record keeper also consults the health promoter for the sector, adding infants who are expected to be delivered (before the completion of the next Anket Sou Sante Timoun, i.e., during the next 4-6 weeks) to the Home Visit List.

After the growth monitoring station (or after the child is seen by the physician or senior attending health official if the child is ill), the record collects the Fiches Individuelles for refiling back at the NOVA Field Office.

HOME VISIT

Health Promoter

The health promoters visit all households at least once every four months to identify pregnant women and their expected date of delivery. This Pregnancy List is kept for each four month period prior to the rally post for that sector, and used to update the Home Visit List prior to the Anket Sou Sante Timoun. During these visits to all households the health promoters also works motivate mothers to attend the rally posts with their children. Within two weeks after each rally post, the health promoter assists the enumerator in visiting all children who were not present at the rally post, aided by the Home Visit List. When possible, the health promoter also accompanies the enqueteur during the Anket Sou Sante Timoun, targeting mothers of children identified as malnourished for special nutritional education.

Enumerators

Within two weeks of each rally post, enumerators will work with the health promoter for that sector to visit all "no show" children's home. With the aid of the Home Visit List, enumerators will assure that "no show" children receive their vitamin dose (numbers of doses, needs having been determined and provided at the end child's Chemin la Sante Card and on the Home Visit List (for later transcription in the Fiche Individuelle).

Between three and six weeks after the rally post for each sector, enumerators will visit every home of children 0-83 months of age, completing the Anket Sou Sante Timoun. Verbal Autopsy forms will be completed for any death. The Anket Sou Sante Timoun, Home Visit List and Verbal Autopsies will be returned to the NOVA Field Office within 7-8 weeks after the rally post for that sector.

NOVA FIELD OFFICE

Record management activities at the NOVA Field Office include:

1. Fiches Individuelles for each child are made from the data on the Anket Sou Sante Timoun. Special attention is given to those children noted as having no address (i.e., no Fiche Individuelle) on record at the time of the rally post (as indicated on the Home Visit List).

2. Chemin la Sante Cards are made for each child, assuring that the correct color dot is applied (based on the house number), reflecting the color of the vitamin capsule to be received.

3. After each rally post, the data from the Fiches Individuelles is transcribed onto the Fiches Individuelles and are refiled for each sector in preparation for the next rally post.

4. The Home Visit List is brought into the NOVA Field Office with the completed Anket Sou Sante Timoun forms, 7-8 weeks after the rally post for that sector. Doses of vitamin administration (on home visits) to "no-shows" will be transcribed from the Home Visit List onto the Fiches Individuelles.

5. The Anket Sou Sante Timoun forms are reviewed promptly, and screened for any mismatches of house number and color of capsule (reported by project staff or mother's recall). Hand tabulation of potential adverse effects (Lot problem" and child deaths) by color of capsule will be maintained to assure prompt discontinuation of the study if excess serious adverse effects or mortality are noted in either study group.

SURVEY FINDINGS *

The findings document very low coverage rates for vaccination, high prevalence of diarrhea and a high incidence of upper respiratory infections. Little or no recent information on the epidemiology of Acute Respiratory Infection (ARI) exists in Haiti, aside from a study carried out at Albert Schweitzer Hospital. The study has a potential for making a significant contribution in the understanding of ARI as a major cause of morbidity and mortality in Haiti.

The findings are summarized below (from 1000 records selected at random from the total population sample):

Vaccination coverage (baseline):

DPT3	11.1%
OPV3	9.8%
Measles	21.4%
BCG	29.5%

Prevalence of diarrhea "last two weeks": 44.1%

Proportion of mothers who used ORT for the last episode of diarrhea: 23.8%

Proportion of children who have ever received a Vitamin A capsule: 36.2%

Proportion of children who have ever received a capsule since January 1987: 5.7%

Incidence of symptoms of respiratory infections "last two weeks"

rhinitis	: 68.6%
cold	: 65.6%
cough	: 52.6%
shortness of breath	: 23.6%

*Eye Care NOVA Project Annual Report, 1987-1988. page 4

THE HAITI NOVA (NUTRITION, ORT AND VITAMIN A) PROJECT
INTERIM REPORT
January 1990

A. SUMMARY

EYE CARE, a non-profit private voluntary organization, has implemented a child survival project for the Northwest area of Haiti. The focus of activities was oral rehydration therapy and vitamin A distribution. The beneficiaries were the 75,000 persons living in the project area, and more specifically, 13,000 children under seven years of age and their mothers.

The approach was population-based, the beneficiaries being registered and enrolled with the direct provision of services.

The objectives were as follows:

1. Develop a service delivery infrastructure to ensure that all project area children would receive Vitamin A capsules. Two principal outreach mechanisms were used: rally posts, which are places of assembly at or near a village where mothers meet members of a mobile health team; and house to house distribution for children who did not show up at the rally post;

2. Train mothers in oral rehydration therapy (ORT) and promote oral rehydration salts (ORS);

3. Conduct an impact study of vitamin A administration on childhood mortality and morbidity. After initially proposing a quasi-experimental design ("before and after"), this was modified to a double-blind randomized trial of vitamin A administration.

The project began in October 1986, with an initial PACD of September 30th, 1989, later amended to December 31st, 1989.

Project accomplishments were as follows:

1. Census and registration

The project area was divided into 60 sectors, each with a community health worker. The population was registered and visited periodically by a mobile community health outreach team which organized rally posts at each sector. A total of 75,608 persons were registered of which 13,771 were children under six years of age and 16,454 were women 15-49 years old.

2. Creation of service delivery infrastructure

Each of 60 communities were invited to nominate three candidates for the post of health worker. They were given an aptitude test and one of the three was chosen, thus creating a corps of 60 health workers. The workers followed a two-part course, the first part focusing on census and registration, the second on nutrition and ORT. The communities were contacted to identify rally post sites.

3. Rally posts

A total of 243 rally posts were conducted over the life of the project. The rally posts were executed over five cycles. The first four cycles were attended by a cumulative total of 22,702 children for 197 rally posts, or an average of 115 children attending per post.

4. Vitamin distribution

Vitamin capsules were distributed at rally posts and in the home for children who did not attend rally posts.

5. Growth monitoring

"Road-to-health" type growth monitoring cards were distributed to mothers of children under three. These children were weighed at rally posts and mothers of children with malnutrition received special counseling.

6. Oral rehydration

5,360 mothers were enrolled in a formal five day course on ORT given at the villages. An additional 3,020 mothers received ORT instruction at rally posts, for a total of 8,380 mothers. 6,000 ORS packets were distributed for demonstration purposes.

7. Institutional development

The project allowed EYE CARE to expand the breadth of its services in the project area, to institute an outreach strategy which allowed the screening and treatment for ocular disorders of large numbers of children. In addition, the project made available in the project area 60 village-level personnel trained in ORT and growth monitoring and reinforced the knowledge and capabilities of existing EYE CARE staff in the area of xerophthalmia prevention.

8. Cooperation with the Ministry of Health

The Ministry of Health provided the materials for ORT demonstration, some road-to-health cards and scales. In addition, the Ministry made available part of the time of its staff. Finally, the Ministry designated Dr. Pierre Louis, project director, as the physician in charge of the St. Louis du Nord area.

9. Sustainability

Because of the increased competence of the local EYE CARE staff, the inherent nature of the project, and because EYE CARE maintains a permanent facility in the Port-de-Paix, project activities have continued beyond the PACD of December 31, 1989.

B. SUMMARY

1. Demographic data

Total population	75,608 (project census)
Children 0-7 yrs	13,771
Women 15-49	16,454

2. Rally post attendance

Cycle	date	# of posts	# of children	Average
1	01/88-05/88	60	6,488	108
2	08/88-12/88	45	5,393	120
3	01/89-05-89	46	5,616	122
4	06/89-08/89	46	5,205	113
5	09/89-11/89	36	NA	NA
Total		243		

3. Vitamin A distribution

cycle	Rally post dist.	Home dist.	Total
1	0	0	0
2	4,461	1,945	6,405
3	4,637	3,274	7,911
4	5,205	4,676	9,881
5			

Number of children having received at least:

1 capsule	10,847
2 capsules	8,096
3 capsules	4,286

4. Growth monitoring

cycle	normal	M1 (Gomez)	M2	M3	Total weighed
1					
2	47%	35%	14%	4%	3,752
3	48%	36%	13%	3%	4,225
4	46%	40%	12%	2%	3,420

5. ORT training

Women trained in formal sessions:	5,360
Women trained in rally posts:	3,020
Total	8,380
Packets distributed for demonstration:	6,000

ACHIEVEMENT OF OBJECTIVES
NOVA Project Field Activities

Activity	Dates Planned[1]	Dates Accomplished
Field-test questionnaires	8/3-4/87	10/87
Train health promoters	8/5-7/87	3/87
Complete Pop. Registration	8/7/87	5/87
Identify 20 enumerators	8/14/87	on schedule
Train enumerators	8/17-19/87	9/87
Train ophthalmic assistants	9/7-11/87	on schedule
Baseline survey	8/10-10/16/87	11/87
Rally post #1	1/11-3/18/88	on schedule
Survey #1	2/1-4/22/88	on schedule
Rally post #2	5/9-7/15/88	10/88
Survey #2	5/30-8/19/88	11/88
Rally post #3	9/12-11/18/88	4/89
Survey #3	10/3-12/23/88	5/89
Rally post #4	1/9-3/17/89	7/89
Survey #4	1/30-4/21/89	8/89
Rally post #5	5/15-7/21/89	11/89
Survey #5	6/5-8/25/89	? *
Summary Data Analysis	9/89	? +
Presentation of Results	9/89	? +
Manuscript Preparation	9/89	? +

1 Implementation schedule from Implementation Plan for Vitamin A Component of Project

* Survey rounds were a component of the vitamin A research study, not part of actual service delivery.

+ Activities to be carried out in Port au Prince by Eye Care/Child Health Institute.

NOVA

PROJECT BUDGET
(Revised November 3, 1987)

	Year I	Year II	Year III	Total
SALARIES				
Supervisory/Clinical Staff				
Director	24,000	25,200	26,500	75,700
Operations Coord.	---	7,400	7,800	15,200
Clinical Coord.	---	7,400	7,800	15,200
Trainer/Educator	---	7,400	7,800	15,200
Data Manager/Superv.	6,000	6,400	6,800	19,200
Ophthalmic Assts.(2)	4,000	6,200	6,400	16,600
Archivist/Secretary	2,125	3,200	3,400	8,725
Benefits (8.5%)	3,071	5,372	5,653	14,096
Field Staff				
Field Supervisors (4)	---	6,000	6,400	12,400
Enumerators (20)	---	25,000	30,000	55,000
Health Promoters (60)	20,800	36,000	36,000	92,800
(Incentive Pay)	---	8,000	12,000	20,000
Central Support Staff				
Accountant (PAP)	2,100	8,800	9,200	20,100
Business Manager (DC)	5,460	5,250	5,600	16,310
TECHNICAL ASSISTANCE				
Ophthalmologist	---	3,200	800	4,000
TRANSPORTATION				
Vehicle	16,291	---	---	16,291
Fuel/Maintenance	3,593	4,500	4,500	12,593
EQUIPMENT/SUPPLIES				
Medications/Supplies	---	10,000	9,000	19,000
Health Ed. Materials	---	4,000	2,000	6,000
Computer/Peripherals	---	4,000	---	4,000
(Maint. Contract)	---	250	250	500
Office Supplies	3,145	8,000	4,000	15,145
Other Expenses	785	1,500	1,500	3,785

(Projected Budget continued)

INTERNATIONAL TRAVEL				
3 trips to U.S.	---	1,200	2,400	3,600
SUBTOTAL	91,370	194,272	195,803	481,445
OVERHEAD (15%)	13,706	29,141	29,371	72,218
TOTAL	**5,076**	**223,413**	**225,174**	**553,663**

PRINCIPAL CONTACTS

NAME	AFFILIATION
Dr. Antoine Augustin	Director, Child Health Institute and Director, Eye Care/Haiti
Dr. Muller Pierre-Louis	Prior Field Coordinator, NOVA project
Dr. Raoul Raphael	Chief Medical Officer, Northwest Region, MOH
Ms. Donna Fujiwara	Eye Care/Washington
Dr. Michael White	USAID/Haiti
Mr. David Eckerson	USAID/Haiti

PROTOCOL FOR CODING THE "ANKET SOU SANTE TIMOUN"

For each Anket Sou Sante Timoun (ASST) form to be coded, the corresponding Fiche Individuelle (FI) should be located (by sector and house number) to verify the data on the ASST. If the corresponding FI cannot be located or if the name(s) of the child (or children) from the ASST do not correspond to the name(s) on the FI, set that ASST aside to be given to the supervisor (who will use the Fiche de Suivi or log sheet to locate the family and its appropriate number). If the children described on the ASST can be found on the corresponding FI, then proceed to code that ASST. Be sure to return the FI in the proper order to the FI file for that sector before going on to code the next ASST.

When coding the ASST, remember that there must be an entry in the coding column for all of the following questions in order to facilitate data entry into the computer. Coding should be completed by entering the appropriate numbers in the coding column as follows:

Question 3: Code the date of birth, using more complete data from the FI if the date on the ASST is incomplete. Use the format DD/MM/YY, entering a 9 wherever the information is not available. For example, if the child was born in April 1985, but the exact date is unknown, enter 99/04/85. If only an estimated age is available from question 4, calculate the estimated birthdate by subtracting the age in months from the date of the home visit. For example, if the child is 38 months (3 years and 2 months) of age, and the home visit occurred in 04/88, the estimated date of birth is 02/85. If the child was 42 months (3 years and 6 months) of age at the time of the 04/88 home visit, then the estimated birth date is 10/84.

Question 5: Code the sex of the child as 1 (male), 2 (female) or 9 (unknown), checking the FI if the answer is not clear on the ASST.

Question 6: Code the child's status at the time of the household visit as 1 (alive) or 2 (dead), entering 1 if there is no answer and no indication that the child died on either the ASST or the FI.

Question 7: Code the date of death as DD/MM/YY, as for date of birth. If the child has not died or the date of death cannot be estimated, enter 99/99/99 in the coding column.

Question 10: Code the color of the "tach" as 0 (pa gin), 1 (tach rouj), 2 (tach vert), or 9 if no answer is given.

Question 11: Code the date of the last dose (prior to this cycle) as DD/MM/YY, as for birthdate. Check the FI before concluding that the child received no vitamin A. If the date is incomplete or not given in the ASST, consult the FI for the date of the dose (for that cycle). Be careful not to enter dates for a previous or later cycle of vitamin A distribution, checking to be sure the date of the dose is the last one before and not later than the date of the household visit. Estimate the date of the dose if a dose is documented but no date given, entering 99/99/99 only if there is no evidence that the child received a dose during that cycle.

Question 13: Code the date (DD/MM/YY) of the weighing which preceded the household visit, being sure again that the date is for the weighing which immediately precedes but is not later than the date of the household visit.

Question 14: Enter the weight in kilograms with one decimal point (e.g., 6.0 or 12.5 kg). Be sure that the weight agrees with that entered on the growth chart for that date.

Question 15: Code the breastfeeding practices as 1 (yes), 2 (no), 3 (unknown), or 9 if there is no response.

Question 16: Code the presence of diarrhea during the last two weeks as 1 (yes), 2 (no), 3 (unknown), or 9 if there is no response.

Question 17: Code the treatment for the diarrhea as a number 1 to 6, selecting only the first one if multiple answers are given, and entering 9 if no answer is given. For example, if "sewom oral" (1), "remed fey" (4), and "lot remed" (5) are checked, enter only 1 (sewom oral) in the coding column.

Question 18: Code the mother's report of receipt of vitamin A as 1 (yes), 2 (no), 3 (don't know), or 9 (no response). The mother's report need not necessarily agree with the recorded vitamin A status from question 11.

Question 19: Code the mother's report of the color of capsule received as 1 (red), 2 (green), 3 (yellow), 4 (unknown), or 9 (no response).

Questions 20-24: Code the report of ARI and other symptoms as 1 (yes), 2 (no), 3 (unknown), or 9 (no response).